

Save the Solar System!

Story:

Help! An evil scientist has discovered a way to remove the Earth's magnetic field. Without a magnetic field, the moon will go out of orbit and in 40 minutes it is scheduled to crash into the Earth, ending life as we know it. We have found the evil scientist's device but we need to open the box containing it and stop the evil scientist's program to save our earth and the solar system. We need your help! We have already delivered instructions to your instructor.

Please save the earth and our solar system.

We are counting on you!

To  All Instructors × Bcc

Cc

Important Announcement- PLEASE READ NOW!

Help! An evil scientist has discovered a way to remove the Earth's magnetic field. Without a magnetic field, the moon will go out of orbit and in 40 minutes it is scheduled to crash into the Earth, ending life as we know it. We have found the evil scientist's device but we need to open the box containing it and stop the evil scientist's program to save our earth and the solar system. We need your help! We have already delivered instructions to your instructor.

**Please save the earth and our solar system.
We are counting on you!**



Secrets for Success:

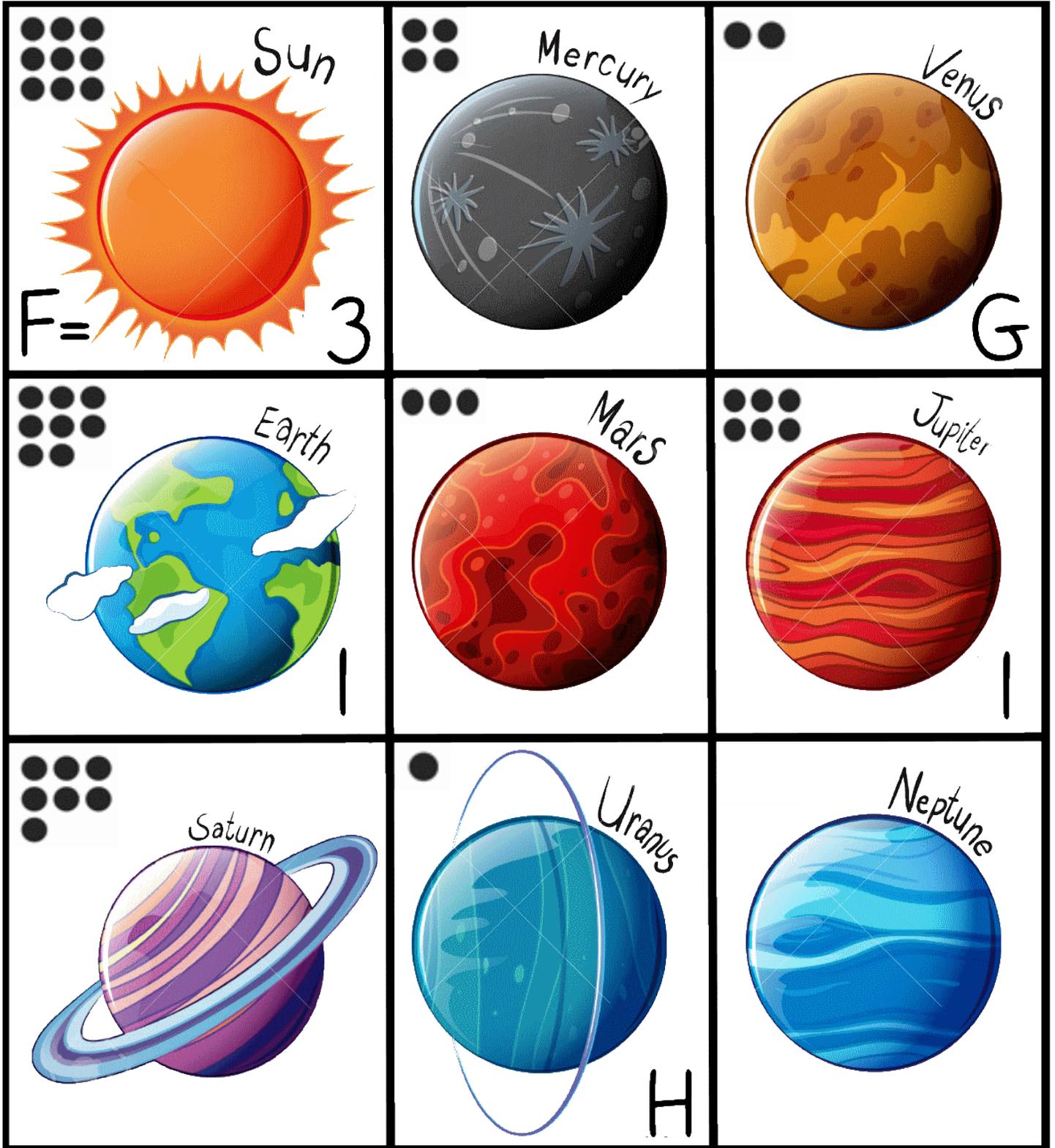
- Teamwork is important! Work together!
- Answers may not be as simple as they seem. Continue to look for clues to solve the problems. In some cases, information you receive early in the problem may not be used until later.
- Trying random codes on locks will not work- there are thousands of combinations. The combinations and codes will be apparent if you follow directions and think about everything you see.
- Give the instructor all locks as soon as they have been opened.
- Come together as a team to discuss problems, items that have been discovered, and when or if to use a hint card.
 - Have fun!

Game Setup:

					
<p>1st</p>	<p>2nd</p>	<p>3rd</p>	<p>4th</p>	<p>5th</p>	<p>6th</p>
<p>Students/ participants will receive a folder that includes:</p> <ul style="list-style-type: none"> -Planets cards (cut and ready for use) -Planets Card Questions #1 -A locked zipper pouch. -Seasons questions. 	<p>The zippered pouch will be locked with a 4 digit lock (set to 6741). The code will be revealed with question #1 of the planets questions.</p> <p>The pouch includes:</p> <ul style="list-style-type: none"> -Planets Card Question #2 -A decoder wheel (assembled). -Red reveal message. 	<p>The locked box will be closed with word lock (set to MOON_):</p> <ul style="list-style-type: none"> -The word lock can be opened with the planets question #2. <p>The box includes: -</p> <ul style="list-style-type: none"> Notebook (locked with a key lock- key under TAPE on the FLOOR) -Red decoder tool. 	<p>The notebook is locked with a key lock (key is hidden under tape on the floor). The key will be found after decoding the seasons questions (answer in invisible ink).</p> <p>The notebook includes:</p> <ul style="list-style-type: none"> -Phases of the Moon questions cut out and adhered to random pages. 	<p>This final box will have a hasp with (4) 3 digit locks on it. Each team will have the code/clue to open ONE of the locks. The lock will be opened by correctly naming the phases of the moon and matching the phase names to the corresponding numbers to reveal a 3-digit code. (Each group will have a different 3 digit code.)</p>	<p>Inside the final box will be an iPad with the Breakout EDU Locks App running. It will be set to a color lock. The answer is revealed on the Secrets of the Season question page. There is an image that is colored green, yellow, red, blue.</p> <p>Student teams should come to a consensus on what combination to try.</p>

The Planets Cards (In Folder)

Cut out the planets cards. Laminate if you wish.



Planet Cards Question #1 (In Folder):

Use the planet image cards to complete the following:

1. Sort the planet images into two groups:
 - Planets that are composed mostly of gas.
 - Planets that are composed mostly of rock.

Planets Cards Question #2 (In Bag)

Use the planet image cards to complete the following:

2. Put the planet images in order, according to their orbit around the sun.

Answers (For Instructor):

1. Sort the planet images into two groups:
 - Planets that are composed mostly of gas.
 - Planets that are composed mostly of rock.
(If rock planets- Jupiter, Saturn, Uranus, and Neptune- are placed in orbital order, this will reveal the number 6715 from the dots on the planet cards.)

Answers (For Instructor):

2. Put the planet images in order, according to their orbit around the sun.
(F=13- Using the decoder wheel answer is: MOON_)

Decoder Wheel:

<http://dabblesandbabbles.com/printable-secret-decoder-wheel/>

Secret Decoder

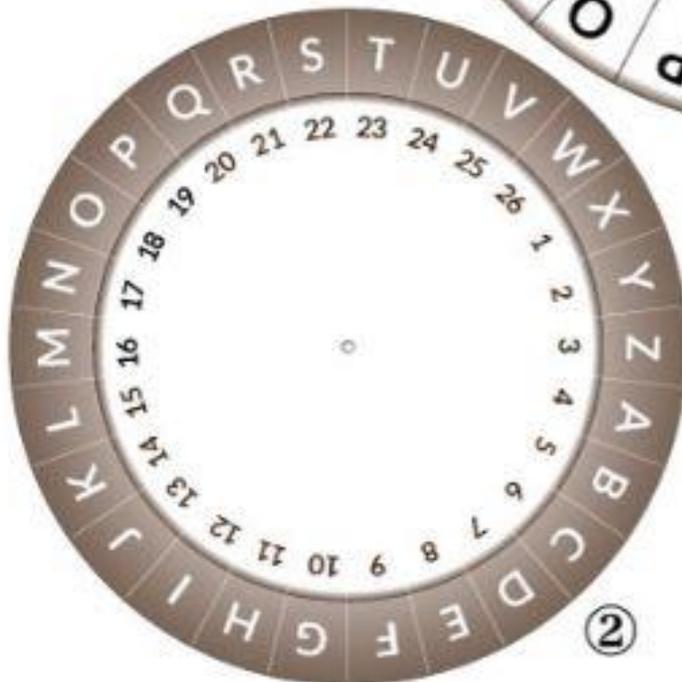
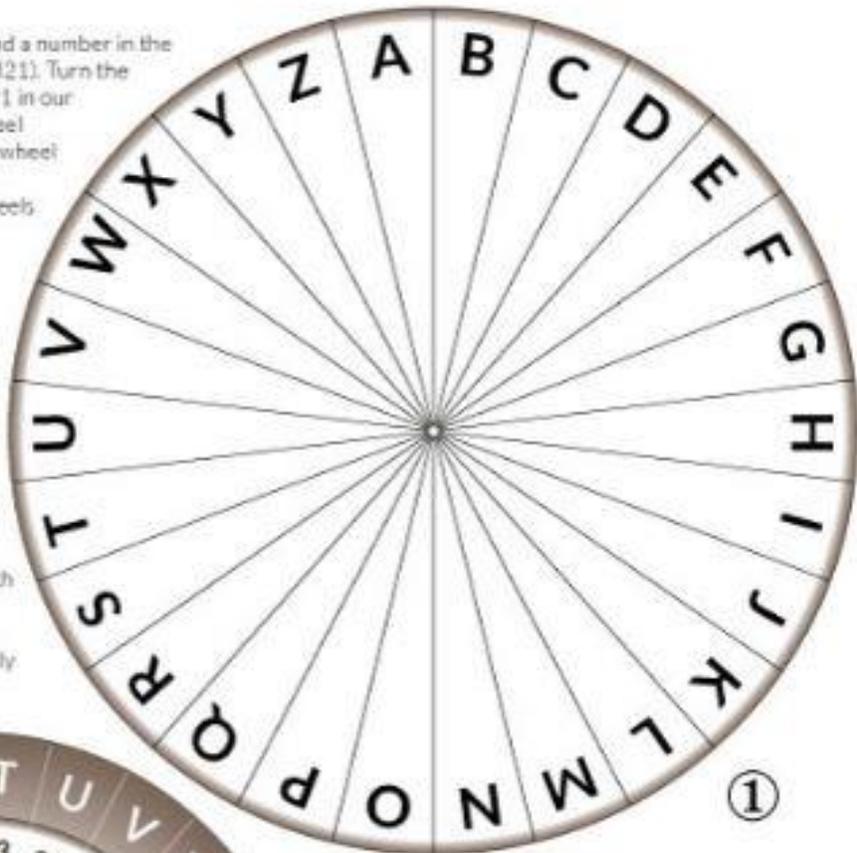
This is a super fun assignment for all the secret agents out there. Time to put your sleuthing skills to work.

HOW TO MAKE THE DECODER WHEEL:

1. Cut out the circles below and stack in order from the number 1 wheel on the bottom, then number 2 wheel and finally number 3 wheel on the top. Attach the 3 discs by carefully poking a round brad through the middle of all three wheels.
2. Attach the 3 discs by carefully poking a round brad through the middle of all three wheels.

HOW TO USE DECODER WHEEL:

1. Pick a letter on the outer wheel and a number in the inner circle - this is your key (ex. M21). Turn the inner wheel so that the number (21 in our example) lines up with the outer wheel letter (M in our example). On our wheel 21 also corresponds with R in the shaded section. Don't move the wheels now, keep them in place.
2. First, write down your message. No numbers (write them out), and no punctuation.
3. For each letter of your message, find that character on the outer wheel, and write down the letter that is exactly beneath it on the inner wheel until your message is complete.
4. To read the encrypted message, get the key from the message sender and align the wheel. For each letter of your message, find that character on the inner wheel, and write down the letter that is exactly above it on the outer wheel.



The Secret of Our Seasons



1. The earth has a 23.5 degree .
2. What word means to spin on an axis?
3. Earth is one of the 8 in our solar system.
4. There are two seasons when the sun's rays shine almost equally on the Northern and Southern hemispheres. The seasons are spring and .
5. The earth moves
(or) around the sun.
6. The sun shines more directly on the hemisphere in June, giving us and the sun shines more directly on the southern hemisphere in January, giving us winter.

The Secret of Our Seasons (Answers)

1. The earth has a 23.5 degree (TILT).
2. What word means to spin on an axis?
 (ROTATE)
3. Earth is one of the 8 (PLANETS) in our solar system.
4. There are two seasons when the sun's rays shine almost equally on the Northern and Southern hemispheres. The seasons are spring and (FALL).
5. The earth moves
(or REVOLVES) around the sun.
6. The sun shines more directly on the (NORTHERN) hemisphere in June, giving us (SUMMER) and the sun shines more directly on the southern hemisphere in January, giving us winter.

Use invisible ink to highlight the boxes indicated above on the student answer sheet. The highlighted letters (which will be selected in invisible ink and revealed with the black light spell: TAPE FLOOR. Hide the key to open the locked book under a piece of tape on the floor.

Print this secret message:

FOR RED GLASSES:



FOR RED GLASSES:



Phases of the Moon

Cut out and adhere to random pages in the notebook (RED):



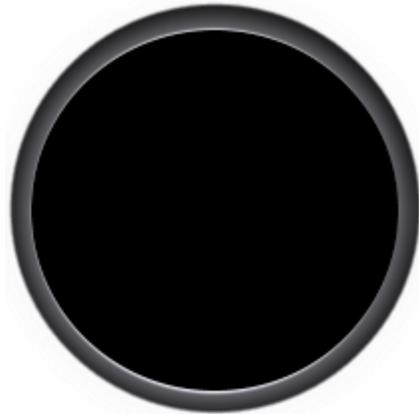
A.



B.



C.



D.

New Moon= 3

Waxing Crescent= 7

First Quarter Half Moon= 1

Waxing Gibbous= 2

Full Moon= 5

Waning Gibbous= 9

Third Quarter Half Moon= 6

Waning Crescent= 4

A= --

B= --

C= --

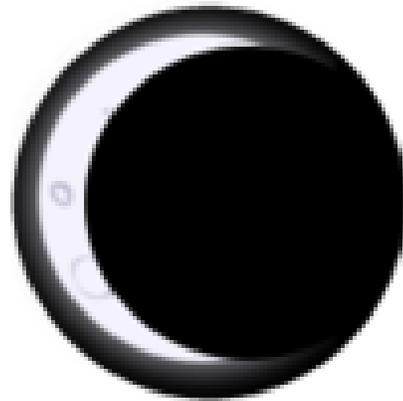
D= --

Phases of the Moon

Cut out and adhere to random pages in the notebook (BLUE):



A.



B.



C.



D.

New Moon= 3
Waxing Crescent= 7
First Quarter Half Moon= 1
Waxing Gibbous= 2
Full Moon= 5
Waning Gibbous= 9
Third Quarter Half Moon= 6
Waning Crescent= 4

A= __
B= __
C= __

Phases of the Moon

Cut out and adhere to random pages in the notebook (BLACK):



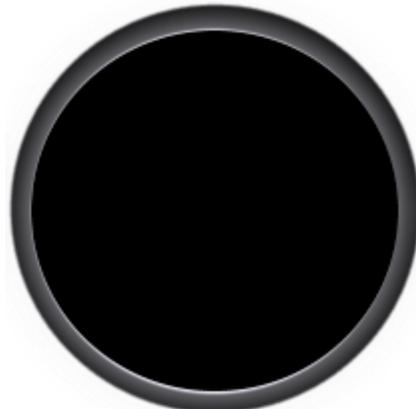
A.



B.



C.



D.

New Moon= 3
Waxing Crescent= 7
First Quarter Half Moon= 1
Waxing Gibbous= 2
Full Moon= 5
Waning Gibbous= 9
Third Quarter Half Moon= 6
Waning Crescent= 4

C= __
D= __
A= __

Phases of the Moon

Cut out and adhere to random pages in the notebook (GREEN):



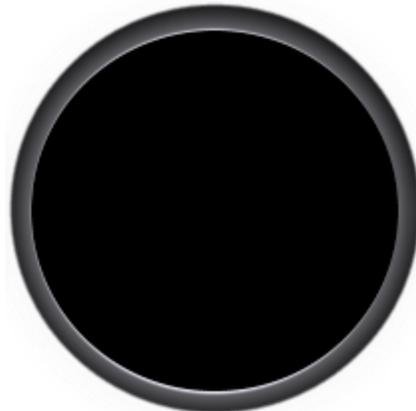
A.



B.



C.



D.

New Moon= 3
Waxing Crescent= 7
First Quarter Half Moon= 1
Waxing Gibbous= 2
Full Moon= 5
Waning Gibbous= 9
Third Quarter Half Moon= 6
Waning Crescent= 4

B= __

C= __

D= __

Phases of the Moon (Answers)

Full Moon



A.

Waning Crescent



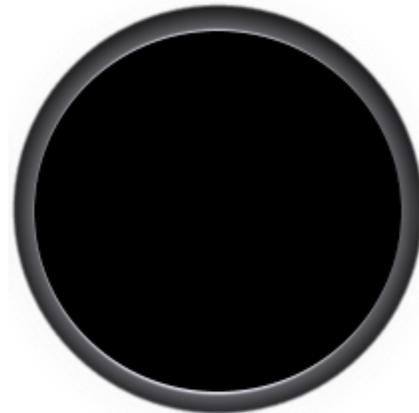
B.

Waxing Gibbous



C.

New Moon



D.

New Moon=3

Waxing Crescent=7

First Quarter Half Moon=1

Waxing Gibbous=2

Full Moon=5

Waning Gibbous=9

Third Quarter Half Moon=6

Waning Crescent=4

(Change numbers for each team)

A= 5

B= 4

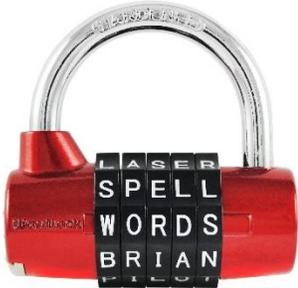
C= 2

D= 3

(Change numbers for each team)

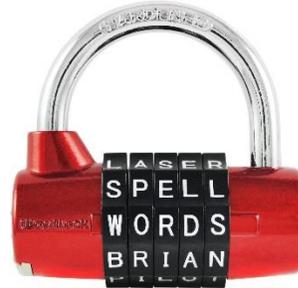
Exit Tickets (Print as many as needed):

To BREAKOUT of this class, write a 4 or 5 letter word that describes your BREAKOUT experience today:



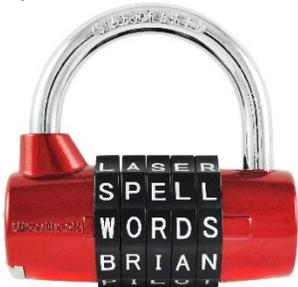
Explain why you chose this word:

To BREAKOUT of this class, write a 4 or 5 letter word that describes your BREAKOUT experience today:



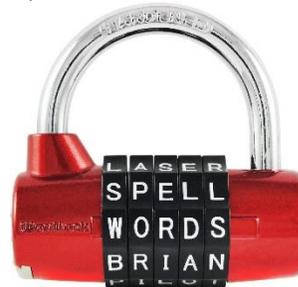
Explain why you chose this word:

To BREAKOUT of this class, write a 4 or 5 letter word that describes your BREAKOUT experience today:



Explain why you chose this word:

To BREAKOUT of this class, write a 4 or 5 letter word that describes your BREAKOUT experience today:



Explain why you chose this word:

